

ABSTRACT

Semiconductor devices have device regions in which semiconductor properties such as spreading resistivity and its profile are significant. In making a p-type device region on a semiconductor wafer, an initial semiconductor device region is defined by a buried region, and an initial spreading resistivity profile is developed by annealing. After annealing, semiconductor device properties can be enhanced by removing a surface sub-region of the initial device region, and can be further improved by epitaxially growing thereon a monocrystalline film as an improved channel layer for FET devices. Such properties are relevant in MOS as well as bipolar devices.